Practitioner's Docket No. 3293.004A ***PATENT***

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: Ruggero M. Santilli	)	
	)	
Application No.: 09/826,183	)	Group No.: 1714
	)	
Filed: 04/04/2001	)	Examiner: C. D. Toomer
	)	
For: NEW CHEMICAL SPECIES OF CLUSTERS	)	

DECLARATION UNDER 37 CFR 1.132

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

I, Jeremy Dunning-Davies, declare and state:

1. I am a scientific professional who has reviewed the works of Dr. Santilli as it related to the principles embodied in the new chemical species of clusters.

2. My curriculum vitae is attached herein.

3. I have read the Official Action mailed February 13, 2006, and the reasons for rejection noted by the Examiner. I note that the Examiner alleges essentially that the chemical species invented by Dr. Santilli is not accepted by the scientific community, as contrary to chemistry as is known to date. In order to provide evidence of acceptability by the scientific community, I provide the following comments concerning my independent observation of the invention claimed by Dr. Santilli and/or my understanding of the new species of clusters.

4. Unfortunately, much of today's science seems to be being hampered by what may only be described as 'conventional wisdom'. How something becomes part of this is not immediately clear although there are indications that being part of a 'club' is a help. One part of 'conventional wisdom' is traditional quantum mechanics. However, quantum mechanics itself attracts two views; (i) in its present form, it is the answer to everything, and (ii) it is incomplete. Einstein was one of those to hold the second view. Professor Santilli's life's work has been devoted to attempting a 'completion' of quantum mechanics. Hence, his work does not conform to the dictats of scientific 'conventional wisdom'. It follows that many statements in the Claim Rejections might, not unreasonably, be termed inadmissible because they are made on the basis of pure 'conventional wisdom' and depend on the views of people totally addicted to this doctrine. If this is to be the basis for everything, there will be little worthwhile scientific advance in the immediate future.

Specifically:

Page 3; the recognition or verification of a said cluster by the scientific community ; the fact that this is not recorded is totally unsurprising since only a limited number of people are involved with Professor Santilli and many are opposed to his suggestions simply because they do not uphold 'conventional wisdom'.

Page 5; (2) the nature of the invention; many in the scientific community may hold a belief, and hold it honestly, but that doesn't mean that belief is true fact.

(3) the state of the prior art; a totally irrelevant section since this is, as far as I know, the first time these ideas have been put forward.

Page 6; these arguments are of dubious worth. What is a skilled artisan? Someone may be a good experimentalist but it wouldn't necessarily follow that they could carry out any procedure

without difficulty. Also, if the details of Professor Santilli's procedures were well-known, there would be no need to apply for a patent as all the information would already be in the public domain! The arguments on this page are all very similar and, in my view, revolve around the above point which, as I have said already, is of dubious validity.

Page 7; This is a new area. Not all the processes are fully understood; that is, and must be, the nature of truly fundamental research. However, as is shown in recent publications going back to Professor Santilli's book 'Hadronic Chemistry' and coming to his recent paper 'A new gaseous and combustible form of water', real progress is being made and should be protected.

Page 8; No. I agree that a 'patent is not a hunting license' but, in this particular area, an enormous amount has been achieved in a very short space of time. The person involved deserves protection for his truly fundamental work. Unfortunately, in this day and age of unscrupulous people, that protection may be afforded only by a patent. In my view, this body of work must be so protected. If the examiners for this claim look through some of the outcomes and, more importantly, the possible outcomes of this area of work – see the book Hadronic Chemistry or the article 'The Physics of New Clean Energies and Fuels According to Hadronic Mechanics' (Journal of New Energy, vol. 4, no. 1, 1999) - they may gain some idea of the potential in this work and recognize the very real need for its immediate protection.

In conclusion, I have to state categorically that I feel very strongly that this whole body of work must be protected by the granting of a patent. I admit that, at this stage, no-one knows exactly how much will come out of the work but the potential is there and that potential is enormous.

Dated: 19th June, 2006

Jeremy Dunning-Davies

Declarant - Jeremy Dunning-Davies

CURRICULUM VITAE.

Name. Jeremy Dunning-Davies

Address. 117, Fairfield Avenue,
Kirk Ella, East Yorkshire.
HU10 7UN.
(Tel. No. 01482 650524)

Nationality. British.

Date of Birth. 21 - 1 - 41.

Marital Status. Married to Leona Faith (née Walker)

Children. Jonathan Piers born 10 - 10 - 78.
Bryony Mary born 6 - 6 - 82.

Education. 1951-59 Barry Boys' Grammar School,
Barry, Glamorgan.
1959-63 Liverpool University.
1963-66 University College, Cardiff.

Qualifications. 1962 - B.Sc. Mathematics, Class II(2), Liverpool.
1963 - Certificate in Education, Liverpool.
1966 - Ph.D. for thesis entitled
"The ideal relativistic quantum gas"
(University of Wales).

Positions. 1966-1968 Assistant Lecturer in Applied Mathematics.
1968-1981 Lecturer in Applied Mathematics.
1981-2002 Senior Lecturer in Applied Mathematics.
2002- Senior Lecturer in Physics.
(All posts held at Hull University)

Research Interests.

Having been a research student of Peter Landsberg at University College, Cardiff, it is not surprising that I should develop a deep and lasting interest in Thermodynamics. However, initially, my research was concerned with studying the statistical thermodynamics of the ideal relativistic quantum gases and it was this study which led to the award of my Ph.D. As may be seen from the attached list of publications, this study also led to several articles in the period 1966 - 68. Some general results concerning particle-number fluctuations also originated in this study of the ideal quantum gases and provided material for further publications. In the 1980's, attention again focussed on the ideal Bose-Einstein gas, - the interest being reawakened by the exploration, at that time, of the cosmological implications of a massive primordial photon gas and by the increased attention being paid to problems associated with quarks and quark confinement. Since the first paper to discuss ideal relativistic Bose condensation was by Peter Landsberg and myself, it seemed natural for us to collaborate on a further study of the Bose gases. The work eventually resulted in Peter Landsberg presenting an invited paper to the International Symposium on the Statistical Mechanics of Quarks and Hadrons at Bielfeld in August 1980 and in my writing two more articles. Far more recently, Peter Landsberg and I have looked, with the help of my research student, David Pollard, at the statistical thermodynamic problems associated with a column of ideal gas acted on by gravity. This investigation has led to a longish publication and has helped towards the award of a Ph.D. to David Pollard.

As far as classical thermodynamics is concerned, I became interested in the analytical approach to the subject initiated by Carathéodory in 1909 but revised and simplified by such as Turner, Buchdahl and Landsberg himself. My contribution has been concerned with the connection between the various forms of the Second Law of Thermodynamics and investigating the possible link between the Second and Third Laws. I have also been interested in negative absolute temperatures and particularly in the possibility of running Carnot cycles when one, or both, of the heat reservoirs have negative absolute temperatures.

My main area of research in recent years has involved collaboration with Bernard Lavenda of the University of Camerino in Italy on a wide variety of problems in Thermodynamics and Statistical Thermodynamics. Initially, we worked on a probabilistic approach to thermodynamics and showed that physical statistics may be derived from error laws belonging to exponential families of distributions. Instead of using Boltzmann's principle to relate the entropy to what is called the "thermodynamic" probability, we found that the entropy determines the form of the error law. Where Stirling's approximation is applicable, the probability distribution is a function of the difference between the entropy and its maximum value at equilibrium for which the average and most probable values coincide. We have used this approach to establish that there are no intermediate statistics between the well-known Fermi and Bose statistics which are governed by the binomial and negative binomial distributions respectively. The work has continued over a number of years now and, as the publications list shows, the technique may be applied to a wide range of topics. Again, as the publications list shows, my interest in the Second Law of Thermodynamics has remained and this more recent work has reinforced the tremendously wide-ranging importance of this Law. Unfortunately, the work has also highlighted the lack of appreciation of this importance exhibited by some people. This has led to some publications but also to the deliberate blockage of the publication of a number of interesting, and possibly important, results; this has been especially noticable in the area of astrophysics - particularly results associated with black holes! The collaboration with Professor Lavenda has resulted also in my travelling to Italy to be the speaker for two research seminars at the University of Camerino.

More recently, I have been collaborating with Prof. G.H.A.Cole of the Department of Engineering Design and Manufacture. We are interested in a wide range of problems in such areas as thermodynamics (especially ideas concerning entropy), astrophysics and relativity (even time travel has come in for discussion as is seen from the publications list). Our discussions led to my delivering an extremely well-received paper entitled "Qualms concerning relativity theory and some of its applications" at an international meeting on the Physical Interpretations of Relativity Theory held at Imperial College, London in September, 1996. This talk led to a publication on the same topic which is listed. Our discussions have led to other publications and to several articles being assessed at present by journals. More recently, our collaboration has led to my delivering another well-received paper entitled "Past and present states of superdense matter" at this September's meeting on the Physical

Interpretations of Relativity Theory, again held at Imperial College. This talk has also led to a related publication in the Russian journal "Gravitation", a publication which will appear separately in both Russian and English. The work is still progressing smoothly and ideas on entropy are being clarified. I might comment in passing that, at both the above mentioned meetings, my lectures were so well received by people from all parts of the world that their appreciation was audibly expressed in the lecture theatre. This must have been beneficial for Hull University!

At the above mentioned meeting in 1996, I met Professor R.M.Santilli, Director of the Institute for Basic Research in Florida. At my suggestion, a new Division of Thermodynamics has been created at the Institute of which I am the head. Also, I have been granted the honorary position of Full Professor in the Institute. It now remains to get the new division working and producing results. However, at the more recent Imperial College meeting, Professor Santilli and I met again and are now engaged in extending thermodynamics to cover the new range of materials presently being produced in Florida. The technology involved in producing these new substances arose from work on the newly discovered fuel, referred to in the literature as "Aquafuel". For reasons of security, I cannot discuss this in too much detail.

Finally, my research student, David Pollard, and I have looked quite closely at problems associated with the possible existence of negative mass and of systems possessing negative heat capacities. All this work has been published and David has gained his Ph.D.

The work in thermodynamics has helped me meet many of the top thermodynamicists in Europe. This group recently formed the European Thermodynamics Network which received funding under the European Commission's Third Framework, - gaining fifth place in Chemistry in the Human Capital and Mobility Programme. It might be mentioned also that this work on thermodynamics and related topics has produced much appreciative reaction from all around the world and has resulted in my being invited to participate in collaborative research with a wide range of international colleagues, the most recent request coming from Professor Erik Trell of Linköping University, Sweden, with whom I am collaborating on a translation of the original doctoral thesis of Marius Sophus Lie.

I have also collaborated with colleagues within the University of Hull. I did a little work with Mati Choudhury of my own department on a problem in the field of atomic physics. This formed the subject of a lengthy article and of a paper read by Mati at the Quantum Theory Conference held at York in 1971. Due to my friendship with Bill Stephenson of the Department of Electronic Engineering, I became interested in various problems in the field of active filter circuits. This work resulted in a number of articles, the ones concerned with active filters containing current conveyors involving work undertaken after Bill Stephenson left Hull to take up an appointment at the Virginia Polytechnic and State University at Blacksburg. Since Bill Stephenson left, I have collaborated with Jack Sewell of the Electronic Engineering Department on problems associated with active equivalent network theory. This work led to two articles and appears to have helped open up a relatively new area of theoretical investigation in electronics.

I believe collaborative research between people in different departments is good for the individuals concerned, for the departments and, ultimately, for the University itself. Such collaboration need not lead necessarily to publications by the mathematician involved but it can lead to a deeper understanding of the process involved. Members of mathematics departments can provide a useful service to colleagues in other departments by simply helping with the mathematics encountered. From time to time, I have been involved in this way with Bill Armstrong of the Biology Department.

Finally, another interest of mine is education, particularly mathematical education, and this has led to the few general articles I have written. This interest in education has led also to my involvement with the Science Experience Group at Hull University. This group aims to raise the profile of science in the region and, to this end, organises Saturday morning lectures for schoolchildren and their parents, outings for the same people to such places as Jodrell Bank, and runs a science week at the University as well as science roadshows which visit various venues in Yorkshire. In the science week, such activities as choosing Young Scientists of the Year from the area's schools and running a science project competition for schools also take place. This activity on my part led to my giving a public lecture to schoolchildren and their parents entitled "Space, Time and All That". This seemed to be well received and appeared as a Mathematics Research Report. I have more recently had an article, "Some thoughts

on higher education", published in The Individual and have appeared on several radio programmes, both national and local, discussing present day sixth form education and A-levels in particular.

Teaching and Administrative Duties.

Since coming to Hull, I have been concerned with teaching mathematics students in all three years of the degree course, having, at one time or another, taught

(1) First year courses in "Vector Mechanics" and "Mathematical Methods" (vector algebra, vector calculus, functions of several variables)
(2) Second year courses in "Rigid Body and Analytical Mechanics", "Mathematical Methods" (Fourier series, Laplace transforms, series solutions of ordinary differential equations, partial differential equations, special functions) and a one-term course on "Variational Methods"
(3) Third year course in "Special and General Relativity", "Thermodynamics" (one term), and "Statistical Thermodynamics" (two terms)

Also, I have given a third year course on "Thermodynamics" to the final year Mathematics students and, as a direct result of that, I have written a text "*Concise Thermodynamics*", which was published by Albion Publishing Ltd. in 1996. This book contains a complete undergraduate lecture course - based on the lectures I have given here at Hull - before proceeding to use this basic theory to discuss a number of topics at the forefront of present research. It is possibly of interest to note that, during the five years that this course ran, the average grade achieved by the students was a middle II.1, but, having read my book, an Oxford University Professor of Physics, while liking it, felt it too difficult for his students!

At the present time, I am giving a third/fourth year course on Advanced Mechanics and, last year, gave a similar level course on Electromagnetism, - a return to this topic after roughly thirty years. As far as the electromagnetism course was concerned, Dr. R.D.Greenough (Applied Physics) and I, after consultation with the students involved, organised a session of demonstration experiments to illustrate the most important laws of the subject. This was to make the students, who had little or no physics background, aware of the experimental nature of the basis of the subject. This approach was welcomed by the students who responded in June with an excellent set of examination performances. At present, Dr.Greenough and I are engaged in compiling notes on this.

In addition, as far as Mathematics students are concerned, I have given M.Sc. lecture courses on "Statistical Thermodynamics with Applications" and "Reversible and Irreversible Thermodynamics".

Again, the Applied Mathematics Department has become more and more involved with the teaching of mathematics to students in other departments - Applied Physics, Electronic Engineering, Engineering Design and Manufacture. These departments now have mathematics courses taught as integral parts of their degrees, rather than as ancillary subjects. I myself was closely involved with the original setting up of the courses given to students in Electronic Engineering, Engineering design and Manufacture and Applied Physics. Also, I have taught the second year course for students in these departments and, at present, I am teaching the second year course for students in Applied Physics and E.D.M.

As a direct result of this involvement with service teaching, I wrote the book
"Mathematical Methods for Mathematicians, Physical Scientists and Engineers"
which was published by Ellis Horwood in 1982. This book is based on the material which was taught to the Electronic Engineering students at Hull at that time and, indeed, on that taught to our full-time Mathematics students.

I feel that the giving of service courses , such as those mentioned, is an important part of the role of a Mathematics Department in a University. Indeed, it is as important as the teaching of Mathematics students and can be more rewarding. I feel also that the way in which the above mentioned courses were set up in Hull is correct; - the course content was agreed jointly by the Applied Mathematics and the user departments; the Applied mathematicians were left to teach the material and set work, with the possibility of the user department supplying some questions for homework.

As far as administrative duties are concerned, my main duty until recently has been to deal with questions concerning examination returns and to assist with the organisation of the examinations and examination papers. Also, from 1968 to 1990, I was responsible for compiling the mark sheets for our final year honours students for the final examiners' meeting. However, in 1990, I became Chairman of the Board of Examiners for the School of Mathematics. After six years in this post, I have now stepped down. In addition, I have been deputy selector for the mathematics departments for two years and subsequently selector for two years. I have served on the Staff-Student committee on several occasions; have served as a member of the Board of the Faculty of Science on two occasions; and have been a representative of the Science lecturing staff on Senate.

Until leaving mathematics, I was engaged with three administrative tasks within the department. Firstly, I was in charge of examinations again. This involved ensuring that all exam. papers were set and vetted before being sent to the external examiner; and seeing that master copies of these were in the hands of the exams. office as close to the required date as possible. Also, I acted as library rep. for the department, dealing with all orders and keeping a check on the finances - in these days of increasing journal prices and decreasing funding, this latter task was certainly not a trivial one and was one which, on occasions consumed considerable time. Finally, I was the departmental safety officer. This was not been an onerous job but, with the increased profile of Health and Safety, this was likely to change. Indeed I compiled a Health and Safety policy document for the department, which was well received.

Again, when the taught M.Sc. courses were running in Hull, I supervised several of the students. Since then I have supervised a student for three years on a Ph.D. project concerned with laser produced plasmas. (The student went on to do further work with Professor Pert in the Applied Physics department before writing up successfully.) More recently, I have been supervising a student on a Ph.D. project concerned with problems in statistical thermodynamics. This student, David Pollard, wrote up successfully and received his doctorate in December 1995.

It is undoubtedly the case that science is becoming less and less popular in schools and this is obviously having an effect on university science departments who are finding it more and more difficult to fill their places. This university is attempting to awaken some interest in science among school children of the region by running a science competition - the Starship Project. I have been involved with this almost from the start and will continue with this involvement until it is finished. Also, in this general area of helping promote science in schools, I am helping organise a meeting - possibly in September or October for either a whole day or a half-day - in which the need for girls to study physics will be emphasised. This will be run for all interested schools in the area with help from Hull High School for Girls and indeed, a colleague from the Physics Department and have run a short meeting for that school's present year 9 in the hope of encouraging some of those girls to continue studying physics. I should point out, perhaps, that I have been invited to organise these events by the Headmistress of Hull High School for Girls since she and some of her colleagues in other schools are extremely concerned about the position of physics in girls' schools.

Since coming to Hull, I have tried to take a full interest in all the main University functions and have acted as an assistant marshal at Degree Congregations, Founders' Days and Annual Meetings of Court. I have also acted as marshal on a number of occasions at Degree Congregations.

Outside the University, I referee articles for Journal of Physics A, Physics Essays, Physical Review, Physical Review Letters, Journal of Mathematical Physics, Physics Letters A, American Journal of Physics, Zeitschrift fur Naturforschung A and Electronics Letters. I also referee books for Albion Publishing Ltd. Finally, I have accepted an invitation to act as a referee for applications received in the Scientific Affairs Division of Nato for support under the Nato Scientific Exchange Programme.

Publications.

Thermodynamics/Statistical Thermodynamics.

1. "Statistical thermodynamics of the ideal relativistic quantum gas"
   in Statistical Mechanics of Equilibrium and Non-equilibrium,
   ed. J.Meixner; (North-Holland, Amsterdam, 1965).
   (With P.T.Landsberg)

2. "Ideal relativistic Bose condensation"
   Phys. Rev. **138** (1965) A1049
   (with P.T.Landsberg)

3. "Carathéodory's principle and the Kelvin statement of the second law"
   Nature **208** (1968) 576

4. "A consequence of the Gibbs-Duhem relation"
   Il Nuovo Cimento **53B** (1968) 180

5. "Particle-number fluctuations"
   Il Nuovo Cimento **57B** (1968) 315

6. "Connections between the various forms of the second law of thermodynamics"
   Il Nuovo Cimento **64B** (1969) 82

7. "The second law and adiabatic unattainability"
   Il Nuovo Cimento **10B** (1972) 407

8. "Negative absolute temperatures and Carnot cycles"
   J.Phys.A **9** (1976) 605

9. "Remarks on negative absolute temperatures and Carnot cycles"
   Am. J. Phys. **46** (1978) 583

10. "A comment on the ideal relativistic Bose gas"
    J. Phys. A **14** (1981) 3013

11. "The d-dimensional Landsberg gas"
    J. Phys. A **14** (1981) 3005

12. "On the meaning of extensivity"
    Phys. Lett. **94A** (1983) 346

13. "On the derivation of d'Q = TdS"
    J. Phys. A **16** (1983) 3377

14. "Extensivity and the Gibbs-Duhem equation"
    Phys. Lett. **97A** (1983) 327

15. "A note on the laws of thermodynamics"
    Il Nuovo Cimento **83B** (1984) 88

16. "Logical relations among different definitions of extensivity"
    Phys. Lett. **107A** (1985) 383
    (with P.T.Landsberg)

17. "A note on the gamma function for the unwary"
Euro. J. Phys. **7** (1986) 160

18. "Problems of non-extensivity in hadron thermodynamics"
J. Stat. Phys. **46** (1987) 87
(with P.T.Landsberg)

19. "Thermodynamics of non-extensive systems"
J. Phys. Chem. Solids **49** (1988) 705

20. "On the law of error for mass fluctuations in black holes"
Classical & Quantum Gravity **5** (1988) L149
(with B.H.Lavenda)

21. "The case against intermediate statistics"
J. Math. Phys. **30** (1989) 1117
(with B.H.Lavenda)

22. "On the analogy between first-order phase transitions and black body radiation"
Found. Phys. Lett. **2** (1989) 251
(with B.H.Lavenda)

23. "Classical particles and order statistics"
Phys. Lett. **140A** (1989) 90
(with B.H.Lavenda)

24. "Stefan-Boltzmann law for black bodies and black holes"
Int. J. Theor. Phys. **29** (1990) 501
(with B.H.Lavenda)

25. "Underlying probability distributions of the canonical ensemble"
Int. J. Theor. Phys. **29** (1990) 85
(with B.H.Lavenda)

26. "Kinetic derivation of Gauss' law and its thermodynamic significance"
Z. Fur Naturforschung **45a** (1990) 873
(with B.H.Lavenda)

27. "The essence of the second law is concavity"
Found. Phys. Lett. **3** (1990) 435
(with B.H.Lavenda)

28. "Probability distributions of thermodynamic intensive variables"
Int. J. Theor. Phys. **30** (1991) 907
(with B.H.Lavenda)

29. "Qualms concerning the inflationary scenario"
Found. Phys. Lett. **5** (1992) 191
(with B.H.Lavenda)

30. "Concavity, superadditivity and the second law"
Found. Phys. Lett. **6** (1993) 289

31. "Comment on 'The Hawking Phenomenon'"
Public Understand. Sci. **2** (1993) 85

32. "Comment on 'Implications of the entropy maximum principle'"
Am. J. Phys. **61** (1993) 88

33. "Bosons and fermions in two dimensions"
Int. J. Math. Ed. in Sci. & Tech. **24** (1993) 770

34. "Geothermal energy"
Phys. Ed. **28** (1993) 343

35. "The second law, concavity and negative heat capacities"
Trends in Statistical Physics **1** (1994) 233

36. "Elementary errors about entropy"
Nature **368** (1994) 284

37. "The entropy of a column of gas under gravity"
Am. J. Phys. **62** (1994) 712
(with P.T.Landsberg and D. Pollard)

38. "A new thermodynamics for self-gravitating systems"
Review Bulletin Calcutta Math. Soc. **2** (1994) 1
(with B.H.Lavenda)

39. "The essence of the third law; the deliniation of two forms of thermodynamics"
Il Nuovo Cimento **110B** (1995) 265
(with B.H.Lavenda)

40. "What is entropy?"
Il Nuovo Cimento **110B** (1995) 433
(with B.H.Lavenda and M.Compiani)

41. "A consideration of the possibility of negative mass"
Il Nuovo Cimento **110B** (1995) 857
(with D.Pollard)

42. "Questions concerning relativity theory and some of its applications"
Hadronic Journal **19** (1996) 543
(with G.H.A.Cole)

43. "Time travel; fact or fiction?"
Hadronic Journal **20** (1997) 317
(with G.H.A.Cole)

44. "The prospects for time travel"
The Observatory, June 1997.
(with G.H.A.Cole)

45. "Undergraduate thermodynamics and black holes"
European J. Phys. **18** (1997) 267

46. "Beyond a Neutron Star?"
Hadronic Journal **20** (1997) 449.
(with G.H.A.Cole)

47. "Qualms concerning relativity theory and some of its applications"
Physical Interpretations of Relativity Theory - publication of Late Papers, 1997, pp.52 - 63.

48. "Problems with the entropy concept in modern applications of thermodynamics"
Physics Essays **11** (1998) 375.
(with B.H.Lavenda)

49. "The prospects for time travel"
(follow-up letter)
The Observatory, June, 1998.

50. "Degeneracy in Astrophysics"
Gravitation (a) **3** (1998) 85, in Russian,
(b) in English.

51. "Describing states of super-dense matter"
Physical Interpretations of Relativity Theory, 1998, pp.84-93

52. "Strings and Inflation in Modern Cosmology"
Hadronic Journal **22** (1999) 117.

53. "Intermediate Statistics?"
Hadronic Journal **22** (1999) 211.

54. "Past and present states of super-dense matter"
Gravitation (a) **4** (1999) 79, in Russian,
(b) , in English.
(with G.H.A.Cole)

55. "Thermodynamics of antimatter via Santilli's isodualities"
Foundations of Physics Letters **12** (1999) 593-599.

56. "Open, closed and isolated systems"
Hadronic Journal **22** (1999) 489.
(with G.H.A.Cole)

57. "Thermodynamics of antimatter via Santilli's isodualities"
Hadronic Journal **22** (1999) 607.

58. "Entropy, Thermodynamics and Biology"
Hadronic Journal **24** (2001) 1 - 10.

59. "Thermodynamics:The Second Law Revisited"
Hadronic Journal **24** (2001) 11 - 16.
(with M.Burton and P.J.Doncaster)

60. "Qualms Concerning Relativity Theory"
Recent Advances in Relativity Theory, vol 2 - Material Interpretations,
Eds. M.C.Duffy & M. Wegener, (Hadronic Press, Palm Harbor, U.S.A., 2001)
(with G.H.A.Cole) pp.51-59.

61. "Stirling's approximation: to use or not to use"
Hadronic Journal **25** (2002) 63-68

62. "Maxwell's electromagnetic equations revisited"
Hadronic Journal **25** (2002) 251-260

63. Book review of "Foundations of Hadronic Chemistry with Applications to New Clean Energies and Fuels" by R.M.Santilli,
Foundations of Physics **32** (2002) 1175-1178

64. "Concavity and the Second Law of Thermodynamics"
Int. J. Math. Ed. in Sci. & Tech. **34** (2003) 627 - 629

65. "Nuclear Power and the World's Energy Requirements"
Progress in Energy (accepted)
(with V.Castellano and R.F.Evans)

66. "Universal Constants and Black Holes"
Focus on Astrophysics Research , (ed. Louis V. Ross), 2003, pp.73-83.

67. "X-ray vision"
Letter to National Geographic, April 2003.

68. "The possible variation of the universal constant of gravitation with time"
Hadronic Journal, (accepted)
(with D. Elrick)

69. "Qualms regarding "Superstatistics" by C. Beck and E. G. D. Cohen,
Physica A **321** (2003) , (cond-mat/0205097)
http://uk.arXiv.org cond-mat/0311271
(with B.H.Lavenda)

70. "Qualms regarding "Non-extensive Hamilton systems follow Boltzmann's principle not Tsallis statistics-phase transitions, second law of Thermodynamics" by D. H. E. Gross,
Physica A **305** (2002) 99
http://uk.arXiv.org cond-mat/0311270
(with B.H.Lavenda)

71. "Additive entropies of degree-q and the Tsallis entropy"
http://uk.arXiv.org physics/0310117
(with B.H.Lavenda)

72 "Qualms concerning Tsallis's condition of Pseudo-Additivity as a Definition of Non-Extensivity"
http://uk.arXiv.org cond-mat/0311477
(with B.H.Lavenda)

73. "Qualms concerning Tsallis's use of the maximum entropy formalism"
http://uk.arXiv.org cond-mat/0312132
(with B.H.Lavenda)

74. "Qualms regarding "Dynamical Foundations of Nonextensive Statistical Mechanics" by C. Beck
http://uk.arXiv.org cond-mat/0312301
(with B.H.Lavenda)

75. "Results concerning the centre of our galaxy"
http://uk.arXiv.org astro-ph/0402290

76. "E. A. Milne and the Universes of Newton and Relativistic Cosmology"
http://uk.arXiv.org astro-ph/0402554

77. "The Gravitational Red-Shift"
http://uk.arXiv.org gr-qc/0403082
(with R.F.Evans)

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